REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 27 July 2005. Responsive to the rejections made in the Official Action, Claims 1, and 6 – 8 have been amended to clarify the combination of elements which form the invention of the subject Patent Application. Additionally, Claims 2 - 5 have been cancelled by this Amendment.

In the Official Action, the Examiner rejected Claims 1 – 11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner indicated that Claim 1 included the limitation "for detecting pulsing condition", which the Examiner stated was indefinite because the Examiner was unsure what pulsing condition was referred to. Further, in Claim 2, the Examiner stated that the limitation "of the main body user for wearing" was indefinite as the Examiner was unsure what was meant by "main body user".

Claims 1 and 2 have been amended to correct the language thereof. Claim 1 has been amended to change the limitation "for detecting pulsing condition" to -- for detecting blood flow pulsations -- . Claim 2 has been amended to change the limitation "of the main body user for wearing" to -- of the main body for securing --. Thus, it is now believed that the claims particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

In the Official Action, the Examiner rejected Claims 1 – 7 and 9 – 11 under 35 U.S.C. § 102(b), as being anticipated by Mathews, U.S. Patent No. 5,431,170. Claim 8 was rejected under 35 U.S.C. § 103(a), as being unpatentable over Mathews in view of Bimbaum, U.S. Patent No. 6,605,044.

Before discussing the prior art relied on by the Examiner, it is believed beneficial to first briefly review the structure of the invention of the subject Patent Application, as now claimed. The invention of the subject Patent Application is directed to a wireless heart rate monitor. The heart rate monitor includes a main body having a top cover and a back cover adapted to be positioned on the skin of a user. The heart rate monitor includes a circuit board mounted in the main body and having opposing upper and lower sides. The circuit board includes an infrared detecting module mounted on the lower side of the circuit board. The infrared detecting module includes an infrared transmitter and an infrared receiver exposed through the back cover to engage the skin for detecting blood flow pulsations of the user and outputting a heartbeat signal corresponding to the detecting blood flow pulsations. The circuit board further includes a radio frequency transmitter for receiving the heartbeat signal and outputting the heartbeat signal as a radio frequency signal and an output thereof. The circuit board also includes a radio frequency antenna disposed on the upper side of the circuit board and coupled to the output of the radio frequency transmitter for emitting the radio frequency signal. The heart rate monitor includes a radio frequency receiver disposed remotely from the main body for receiving and processing the radio frequency signal emitted by the radio frequency antenna to provide a display signal.

In contradistinction, the Mathews reference discloses a pulse responsive device including a sensor unit 10 attached to a headband 12 and a remotely located read-out device 14. The sensor unit 10 includes a pair of light emitters 20 and 22 and light sensors 21 and 23 for receiving light from the respective emitters subsequent to reflection within the forehead body tissue. The infrared signals received by the light sensors varies in accordance with pulsations in the blood flow through the blood vessels in the forehead, and the electrical signals derived therefrom are transmitted to the device 14 by short-wave radio communications, column 3, lines 25 – 27. However, nowhere does the reference disclose or suggest a radio frequency antenna disposed on the upper side of the circuit board, the circuit board being mounted in the main body, as now claimed. The invention of the subject Patent Application provides a very compact structure which enables the main body to be in the form of a wristwatch, with both the infrared detecting module, a power supply, the radio frequency transmitter and radio frequency antenna being disposed within the wrist worn main body.

As the Mathews reference does not disclose each and every one of the elements of the invention of the subject Patent Application, it cannot anticipate that invention. Further, as the reference fails to suggest such a combination of elements, it cannot make obvious that invention either.

The Bimbaum reference does not overcome the deficiencies of Mathews. In fact, with respect to the transmission of the heart rate information from the sensing device to the receiver, the Bimbaum reference teaches away from utilizing radio frequency transmission. The Bimbaum reference discloses a caloric exercise monitor wherein an electrode belt 14 is worn around the body of a user and signals obtained from electrodes 16A and 16B are transmitted to a receiver 18 by a transmitter 32. The transmitter 32 is implemented as a coil, which inductively, (magnetically) transmits heart rate information to the receiver, column 4, lines 1 – 5. The reference further suggests alternate means of transmission, such as “optically or through a conductor”, but is silent as to the use of radio frequency transmission, column 4, lines 6 – 8.

Therefore, the Bimbaum reference neither discloses nor suggests the incorporation of a radio frequency antenna disposed on the upper side of the circuit board, and the circuit board being mounted in the main body, as now claimed. Thus, as neither Mathews nor Bimbaum disclose or suggest the combination of elements which form the invention of the subject Patent Application, their combination cannot make obvious that invention. Further, as it is believed that Bimbaum teaches away from the use of radio frequency transmission, the combination of those references, with respect to the incorporation of a radio frequency antenna on a circuit board within the main body, is improper.

For all the foregoing reasons, it is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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